

BATS.

During an examination of the bats which have been added to the Museum during the last few years, three have been met with which do not seem to have been described. They are a *Cephalotes* and two species of *Taphozous*. Whether the seeming and the truth are of one accord, time and the following descriptions will tell :—

CEPHALOTES *pannietensis* n.s.

A species with a gular sac as in certain microchiroptera and a cervical integumentary band, as in *Epomophorus monstrosus*, though not perhaps separable on account of these peculiarities from the genus *Cephalotes*, may be held to be different from *C. peronii*.

ADULT MALE.—Form of head as in *C. peronii*. Ear twice as long as broad measured across the curve of the conch, as long as the face in front of the middle of the eye, anterior margin gently convex, concave near tip, posterior edge much more convex, concave near tip, tip obtusely pointed; inner surface of conch with numerous ridges, those at the base strongly marked; eye central between root of ear and tip of nose; nares contiguous behind, divergent in front, subtubular, opening sublaterally, convolute around the narial orifice; upper lip with a central, oblong cushion divided by a deep central groove; lower lip with a small crescentic cushion on each side of the centre; a group of glands behind the rhinarium on each side, and a conspicuous supraorbital gland; a small but distinct gular sac secreting a waxy substance; a strong vermiform integumentary fold from over the clavicle to the back of the neck, and a smaller one between it and the shoulder; index clawless, ending in a small knob; wing from a septum attached to the central line of the back, thence to the bases of the toes; tail short, free for about three-fourths of its length; interfemoral margin deeply emarginate between the end of the calcaneum and the tail; from the angle of both lips a superficial loop-like fold of integument enclosing a glandular (?) space.

Fur short and harsh; head above, except rhinarium, hairy; ear with a few long hairs on the base of the posterior edge without,

and on the anterior base of the conch within; on the back the fur extends to the margin of the wing membranes, and continues on the body beneath them; there are scattered hairs on the post radial and rest of the wing membranes, and on the raised cervical folds. Beneath there is scanty hair on the antibrachial membrane, and on the postradial in a band which becomes much denser at the elbow. The fur of the shoulder extends upon three-fourths of the humerus, that of the pubis on the femur to the like degree, interfemoral membrane naked except near junction with tail.

COLOUR.—Above, reddish brown, the hairs uniform, more or less glistening; beneath, brown, silvered with shining hairs.

Teeth as in *C. peronii*, molars narrower than premolars. Palatal bars, 12, anterior four simple, more or less arched, last with foliated margin, the rest in pairs, rib-like.

Head and body	..	..	..	..	..	..	mm.125.0
Tail	..	..	..	..	..	..	26.0
Forearm	..	..	..	..	..	..	115.5
First digit	..	..	..	..	..	..	33.0
Second digit	..	..	..	..	..	..	64.5
Third digit	..	..	..	..	..	..	201.0
Fourth digit	..	..	..	..	..	..	151.0
Fifth digit	..	..	..	..	..	..	131.0
Ear, height	..	..	..	..	..	..	23.5
Ear, breadth	..	..	..	..	..	..	12.0
Tibia	..	..	..	..	..	..	52.5
Foot	..	..	..	..	..	..	25.5
Calcaneum	..	..	..	..	..	..	12.0
Hair of back	..	..	..	..	..	..	12.0

In the adult female the eye is nearer to the end of the nose than to the root of the ear, the cushion on the upper lip is irregular in shape and deeply emarginate on its lower margin. There is no gular sac, but a small cervical band, which may be altogether absent, and the centre of the lower breast and abdomen is reddish. Locality, Panniet Island, Louisiades.

One male, three females in alcohol. Skull of one of the females.

TAPHOZOUS fumosus n.s.

This is a Taphozous, with a wing-pouch, a throat-sac, which, in the female, is rudimentary, and ears which have papillæ on their inner edges. So far it resembles the two African species, *mauritanus* and *nudiventris*; but, unlike the latter, its lower back is not bare of fur and its wing extends to the ankle, while from the former it differs in the colouring of its membranes and lower surface; in the disposition of the fur beneath the wing, in a proportionately longer fore-arm and shorter tail, etc. Among Australian species it has virtually but one ally from which it need be distinguished, *australis*, since *flaviventris* is from this last differentiated, chiefly by size and colour, and *hargravei* is stated by its describer to be related

to *affinis*, and should therefore have no radiometacarpal pouch.* It is distinguished from *australis* by the presence of a rudimentary gular sac in the female, a lobule on the tragus, a much shorter forearm and tail and by its colour.

Ear nearly as broad as long, as long in the face from the dorsal root of the ear to the end of the nose. Its dorsal margin thickened at the root, then palpillate, slightly concave in the middle; tip rounded; outer (caudal) edge straight, tragus broades and but little rounded on the summit, with rounded angles, concave on its inner edge, its outer edge straight, but interrupted in the middle by a shallow lobule. Lower lip with a triangular cushion on each side of its centre, rather remote. Gular sac in the male developed, in females represented by a marginal fold of integument and a naked area enclosed. Wing from the proximal end of the tarsus; a radiometacarpal pouch.

FUR.—Muzzle, as far as frontal sulcus, with stout scanty hairs; on the ear the fur of the head extends on the dorsal side of the base; a few long fine hairs on the base within and a very delicate fringe of short hair on the summit of tragus, the rest of the ear naked; antibrachial membrane naked on both surfaces; dorsal fur extending on the wing between the middle of the humerus and that of the femur, thence a short distance outwards on the interfemoral membrane, thence in a curved line to the exit of the tail; tibia and feet naked, or with a few fine hairs between and beneath the toes. On the inferior surface the fur of the chin extending to the middle of the area in front of the gular sac; on the wing the usual postradial band, the ventral fur extending from the middle of the humerus obliquely to the anus, its humeral limit prolonged in a narrow band passing along the bone to its distal end.

COLOUR.—Above dark brown, slightly tinged with yellow, the hairs more distinctly ochreous at the base; beneath, the same but paler, the hairs slightly yellower at the base; ears, membranes, and integument uniform black.

TEETH.—m3 not merely the transverse lamina ascribed to the genus by Dobson. It has a sharp median cusp and a posterior extension, which assimilate it to the fore lobe of m2. Palatal

*By the great courtesy of the Curator of the Australian Museum, I have been able to examine Dr. Ramsay's type of *T. hardgravei*, and to affirm the absence of the pouch. When Dr. Dobson wrote that the supposed want of a gular sac was the only important difference between *T. hardgravei* and *flaviventris*, he must have overlooked the fact that Dr. Ramsay considered his species allied to *affinis*, and consequently one that did not possess the distinguishing character of the group to which *flaviventris* belongs. *T. hardgravei* is a sound species and a fine one.

bars five, the foremost and hindmost single arches; the others double.

Head and body	..	..	..	..	..	..	mm. 75.5
Tail	..	..	..	..	..	..	25.5
Forearm	..	..	..	..	..	..	63.5
First digit	..	..	..	..	..	..	5.5
Second digit	..	..	..	..	..	..	60.5
Third digit	..	..	..	..	..	..	92.0
Fourth digit	..	..	..	..	..	..	62.0
Fifth digit	..	..	..	..	..	..	56.0
First phalanx of third digit	..	..	..	..	..	..	17.5
Second phalanx of third digit	..	..	..	..	..	..	20.5
Ear, vertical length	..	..	..	..	..	..	14.0
Ear, inner edge	..	..	..	..	..	..	9.0
Ear, breadth	..	..	..	..	..	..	13.5
Ear, length of tragus	..	..	..	..	..	..	6.0
Tibia	..	..	..	..	..	..	26.0
Foot	..	..	..	..	..	..	11.5
Calcaneum	..	..	..	..	..	..	13.0
Hairs of back	..	..	..	..	..	..	5.5

Locality, Gowrie Creek, Cardwell. Coll. Broadbent. One male and three females in alcohol. One male skin of [type (examined, in al, and dry). Skull of preceding.

TAPHOZOUS nudicluniatus.

A species connecting *T. nudiventris* with *saccolaimus* and *affinis*, having the nudity of the lower back of the first, together with the occasional development of a minute wing-pouch, and the grooved lip and smooth ear of the others, together with no wing-pouch. Its hairy abdomen and nonpapillate ear sever it from *nudiventris*. Like *saccolaimus*, it has the fur more or less speckled, but on the other hand differently distributed, and, in the female, the throat sac is rudimentary, as in *affinis*. From the last it differs greatly in the disposition of the fur, colouring, and size.

ADULT FEMALE.—Ear nearly as broad (from inner root to outer margin)¹ as long, as long as the face from the inner root of the ear to the end of the nose; inner margin thin, not papillate, regularly convex, tip rather narrow, outer margin slightly convex, tragus concave in front, convex on upper moiety, the edge of the convexity curving downwards and forwards near the base upon the outer surface. Lower lip with a central cushion, emarginate above, deeply grooved below. Gular sac represented by a fold of integument and nearly bare skin within its compass; wing from the proximal end of the tarsus; radiometacarpal pouch very small or absent.

FUR.—Above, on the muzzle scanty and short, nearly obsolete on the canthus rostralis, denser on the frontal line, longer and forming tufts on the cheek behind the eyes; fur of the head ascending

on the dorsal base of the ear, a group of long hairs on the base of the conch within, the hinder surface and upper edge of the tragus hairy; fur on the occiput as on the vertex, or elongate and silky; on the wing extending from the proximal third of the humerus to the same point on the femur, then rounding off to the spine at a distance of about 9 mm. from the exit of the tail; interfemoral membrane, tail and tibia naked; toes hairy. Beneath chin nearly naked, sac with fine hairs throughout, antebrachial membrane hairy, hairs of postradial band sparse, except in the angle made by the forearm and fifth digit, where they are close and long; on the hinder wing membrane the fur extends from the middle of the humerus to the knee, and the humeral origin is carried outwards to the elbow; interfemoral membrane tibia and toes naked.

COLOUR.—Above, on face behind the eyes and on the forehead, bright reddish brown; head dark brown; occiput the same, but, when the fur is long and pale, yellow brown contrasting with the head; back, rich red brown, the hairs white at the extreme base, some wholly white, producing scattered white spots, which may be almost wanting. Beneath, pale greyish brown, the pale brown hairs whitish at the base, being tipped with grey, on wing membrane brownish white posteriorly, nearly white anteriorly; membrane between digits uniform, or on the postradial membrane a partly brown partly grey streak, ending in a triangular whitish mark at the tip of the fifth digit. Skin, white.

TEETH.—m3 like that of *T. fumosus*. Palatal bars, six, or including a pair of minute bars immediately behind the rudimentary incisors, seven. The last four double arched, the others nearly straight.

Head and body	..	..	..	..	..	..	mm 93.5
Tail	..	..	..	..	..	..	26.5
Forearm	..	..	..	..	..	..	75.0
First digit	..	..	..	..	..	..	12.0
Second digit	..	..	..	..	..	..	73.5
Third digit	..	..	..	..	..	..	131.5
Fourth digit	..	..	..	..	..	..	81.0
Fifth digit	..	..	..	..	..	..	62.0
First phalanx of third digit	..	..	..	..	..	..	29.0
Second phalanx of third digit	..	..	..	..	..	..	31.0
Ear, vertical height	..	..	..	..	..	..	16.0
Ear, inner margin length	..	..	..	..	..	..	12.5
Ear, breadth	..	..	..	..	..	..	16.0
Ear, tragus	..	..	..	..	..	..	5.0
Tibia	..	..	..	..	..	..	31.0
Foot	..	..	..	..	..	..	15.0
Calcaneum	..	..	..	..	..	..	16.0
Hair, middle of back	..	..	..	..	..	..	5.0

Locality, Gowrie Creek, Cardwell. Coll. Broadbent. Two adult females in alcohol.